Developing Country HIV/AIDS Prevention Programs: An Analytical Bibliography of Published Literature

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I. Introduction

The U.S. Agency for International Development (USAID) has actively supported efforts to prevent the spread of human immunodeficiency virus (HIV) in developing countries for more than a decade. First identified by scientists in the early 1980's, HIV now infects an estimated 14 million people, the majority of them in the developing world. As there currently exists neither cure nor vaccine, those infected are likely to die from acquired immunodeficiency syndrome (AIDS) that develops in HIV carriers following a period of incubation. USAID-supported HIV/AIDS prevention programs have covered the spectrum of approaches. These have focused primarily on curbing the sexual transmission of HIV through education, leading to behavior modification, because, quantitatively, the most significant form of HIV transmission occurs through the exchange of bodily fluids during sexual relations. While prevention programs are recognized as the most effective means of preventing the spread of HIV, relatively few evaluations of these programs exist, and even fewer are generally available.

This paper first identifies, to the extent possible, published evaluations of efforts, including those by local and national governments, NGO's and others in developing countries, to prevent the sexual transmission of AIDS. Several approaches are discussed, including: mass media campaigns (section II), intervention with specific groups, especially high risk groups (section III), and integration with other health activities, such as family planning programs (section IV). National and donor programs are discussed in section V. USAID has been involved in all of these areas.

In addition, the paper provides information on sources of HIV/AIDS program evaluations and offers some observations on the current state of published evaluation knowledge. A final section draws conclusions from a development information perspective, including the finding that there is a relative paucity of available evaluations of these programs. One illustration of this point can be found in data from AIDSLINE, the National Library of Medicine (part of the National Institutes of Health) database created for information on AIDS. For the years 1990--when program evaluations should definitely start showing up--to 1994, there were 6618 citations on developing countries in AIDSLINE; only 56 of those were classified by AIDSLINE as program evaluations. This means that there were approximately ten program evaluations per year cited for all developing countries. Moreover, with respect to accessibility, 19 (or 31 percent) of these evaluations are studies that were presented at the International AIDS Conferences. Only the abstracts of these papers are readily available. The full text studies may or may not be available in printed form, and in any case are not available in any sort of central location. This evidence is discussed further below.

In order to make an already large task somewhat more manageable, this paper will focus exclusively on programs related to reducing the incidence of sexual transmission of HIV. Other methods of transmitting the virus, such as through blood transfusion, will not be discussed, nor will other important topics such as the provision of medical and social services to those suffering from AIDS or their families, or the social/legal dimensions of the problem.

II. Mass Communication Campaigns

Review/"lessons learned" documents

Academy for Educational Development. 1993a. Partners Against AIDS: Lessons Learned. Washington, D.C. See especially Michael Ramah, "Media Campaigns," and "Integrated Communications Strategies," and Kathryn Caravano, "Audience Segmentation."

Baggaley, Jon. 1988. "Campaigning against AIDS: A perspective for Southern Africa." Media in Education and Development. 21: 106-09.

Brown, Phyllida. 1992. "AIDS in the Media." In AIDS in the World, edited by Jonathan Mann et al. Pp. 720-32. Cambridge, MA: Harvard University Press.

Debus, Mary and Ann B. Jimerson. 1993. "Campaigning for Risk Reduction." In World Against AIDS: Communication for Behavior Change, edited by William A. Smith, et al. Washington, D.C.: Academy for Educational Development.

Liskin, L., C.A. Church and P.T. Piotrow. 1989. "AIDS Education, a Beginning." Population Reports, Series L, No. 8.

Piotrow, Phyllis T., Rita C. Meyer and Bernard A. Zulu. 1992. "AIDS and Mass Persuasion." In AIDS in the World, edited by Jonathan Mann et al. , 733-47. Cambridge, MA: Harvard University Press.

World Health Organization. 1991. AIDS Prevention Through Health Promotion; Facing Sensitive Issues. Geneva: World Health Organization.

Studies of individual media campaigns

Academy for Educational Development. 1993b. Field Note 6, "Designing Media Campaigns to Prevent HIV in Young People." In Academy for Educational Development, "AIDSCOM lessons learned: AIDS prevention in Africa," Washington, D.C.: AED.
Emmanuel, S.C. 1991. "Public awareness of AIDS in Singapore." Singapore Medical Journal. 32(2):123-6.
990. " Report on AIDSCOM activities in the Philippines: 1988 - 1990." Washington, D.C.: Academy for Educational Development. PN-ABL-451.

Bosompra, K. 1989. "Dissemination of health information among rural dwellers in Africa: A Ghanaian experience." Social Science and Medicine 29 (9): 1133-39.

Conviser, J. 1991. "The Zaire Mass Media Project: A Model AIDS Prevention Project," in PSI Special Reports, eds. H. Crowley and B. Derr. Washington, D.C.: Population Services International.

Evian, C.R., M. de Beer, M. Crewe et al. 1991. "Evaluation of an AIDS awareness campaign using city buses in Johannesburg." South African Medical Journal. 80(7):343-6.

Roseberry, Wendy, Dennis Foote, et al. 1991. "AIDS communications and technical services (ACTS) project: Evaluation of phase one and plan of activities for phase two." Chevy Chase, MD: University Research Corp. XD-ABD-659-A.

Zulu, Ben. "The Use of Theatre for HIV/AIDS Education." 1991. In "Tradition and transition: NGOs respond to AIDS in Africa," edited by Mary Anne Mercer and Sally J. Scott. Baltimore, MD: Johns Hopkins University. PN-ABP-167.

AIDS has been termed "the first international mass media disease" in recognition of the fact that most people have learned more about AIDS from the media than from health professionals. There are two facets to mass media campaigning. One is media campaigns in the form of advertising and other campaign materials, maintaining significant control over the message and its placement. The other lies in the open news value of the subject. Media efforts have tended to emphasize the first aspect.

Lessons learned from media campaigns include:

In many societies, sexual behavior is a taboo subject, making it difficult to speak openly about sexually transmitted disease.

This is especially true in certain religious communities and can lead to strong resistance to those AIDS prevention strategies which promote talking about sex to adolescents or pre-adolescents or advocating the use of condoms. There also may be greater resistance to discussion of specific sexual practices, such as homosexuality or commercial sex.

Well-designed mass media campaigns can reach large numbers of people. The campaign in Ghana (AED 1993b) resulted in an (estimated) half of the population completing the campaign tag phrase correctly. More than an (estimated) quarter of rural women, who typically have less access to information than urban dwellers, recognized the campaign phrase.

Mass media campaigns have resulted in increased awareness of HIV/AIDS and some behavior change. Strategies involving more human interaction, however, such as those described in section III, may need to be carried out to significantly increase and sustain behavior change.

Mass media can be used effectively to "set the stage," or prepare people for face-to-face interventions. Mass media can "give permission" for some of the behaviors to support programs. For example, if the strategy is to encourage young adults to use condoms, permission from society or parents may be necessary in order to do so, and mass media can be used to set the stage for receiving that permission.

Even in small, seemingly homogenous countries, there is no "general audience." A uniform communication program inevitably speaks to some groups, offends others, and is incomprehensible to others. The goal of audience segmentation is to identify primary audiences (those that will adopt a new behavior) from among larger population groups. Segmentation based on risk behavior is the obvious way to proceed. Behavioral and communication research can then determine what approaches to behavior change might be most effective.

Segmentation also helps to define secondary audiences (those that influence the behavior of the primary audience) as well as those whose support is needed for programs promoting new behaviors (tertiary audiences).

However, there are certain difficulties inherent in mass media campaigning.

The cost of mass media campaigns can be substantial, which is clearly a problem for financially strapped ministries of health. For this and other reasons, ministries of health do not seem to have integrated mass media communications into their activities, even though mass media communications may be cost effective. Behavioral research is necessary in order to understand human behavior and how it might be modified, yet this is also costly and does not appear to be a common skill of ministries of health.

Audience segmentation--the fact that there is not one but many audiences from the point of view of behavioral change--drives up the cost of communication for behavioral change.

Integrating mass media campaigns with provision of further information and communication to individuals can also be difficult to coordinate and a strain on financial and human resources.

Based on an analysis of developed country materials, Bagally (1988) concludes that conventional techniques of television advertising are not appropriate in AIDS prevention and should be replaced by the more straightforward techniques used in conventional health education.

Media coverage of HIV/AIDS as news can be used to convey information about HIV and AIDS to the public. The Brown (1992) study provides an excellent review of past experience, principally, but not exclusively, from industrial country experience. Integrating studies on key AIDS-related topics with media dissemination--as research institutes and journals do so well in the United States--provides a cost-effective way to both establish key facts about HIV/AIDS and educate the public using those facts and response strategies.

III. Community Based Interventions

A. Introduction

Review/"lessons learned" documents

Lamptey, Peter R. and Thomas J. Coates. 1994. "Community-based AIDS Interventions in Africa." In Aids in Africa, edited by Max Essex, Souleymane Mboup et al. New York, NY: Raven Press.

Lamptey, Peter and Malcolm Potts. 1990. "Targeting of Prevention Programs in Africa." In The Handbook for AIDS Prevention in Africa, edited by Peter Lamptey and Peter Piot. Durham, NC: Family Health International.

Studies of individual programs
Katende, M. and R. Bunnell. 1993. "Involving communities through feedback on evaluation." Aids Health Promotion Exchange. 4:4-5.

Ngugi, Elizabeth N. and Francis A. Plummer. 1988. "Health Outreach and Control of HIV Infection in Kenya." Journal of Acquired Immune Deficiency Syndromes, 1(6): 566-70.

Most HIV prevention activity has occurred at the level of identified groups, such as individuals in the workplace, youth, commercial sex workers and their clients, and certain occupational categories in which members may be prone to higher risk sexual behavior, such as long-distance truck drivers or soldiers. Identified populations have been targeted for two principal reasons: first, with concentrated interaction between group members, greater behavioral change can be brought about;

second, the relatively high-risk sexual behavior engaged in by some group members increases the danger of infection and transmission to others. It is worth mentioning that membership in a particular group is not in itself a danger; it is engaging in the high risk sexual behaviors that is dangerous.

It was recognized in the late 1970s that a difference between STDs and other epidemics was the importance of heterogeneity of sexual behavior with the simplest distinction lying between a "core group" of relatively sexually active people and "non-core group" which is less so. This heterogeneity has two important consequences: the epidemic will spread much faster than would be inferred using the average degree of infection in the population (which had been the usual method of calculation) and that the (often by far) most cost effective strategy is to concentrate on the core transmitter group. Thus heterogeneity of sexual behavior is very important in determining the development of the AIDS epidemic, and in choosing a control strategy.

Members of high risk groups are thus targeted because of the greater risk of transmission and based on assumption that two-way dialogue is more effective than an impersonal mass media campaign. Lessons learned about community intervention (Lamptey, 1994, 1990) include the following:

The lack of resources and technical and management skills in developing countries can make it difficult to conduct community-based campaigns.

The target community must be involved in program conceptualization, design and implementation. Community members must be involved in selecting target behaviors and groups; in designing and conducting formative and outcome evaluation procedures; in developing and implementing the interventions; and in evaluating and modifying programs. Such programs are much more likely to be sustained than programs brought in from the outside by people likely to leave the community.

The capacity of institutions to implement programs must be developed. Training programs should be competency based and should create a cadre of local trainers who can develop permanent training programs.

Interventions cannot be successful unless international, national, and local policies permit effective action. (For example, condom promotion requires government policies that allow condoms to be imported and promoted.)

B. Workplace Interventions

Review/"lessons learned" documents
None found.

Studies of individual programs
McCombie, Susan and Robert Hornik. 1994. "Evaluation of a Workplace-based Peer Education Program Designed to Prevent AIDS

in Uganda." Washington, D.C.: Academy for Educational Development. PN-ABL-497.

Vernon, D. 1993. "Adapting information for Maroons in French Guyana." Aids Health Promotion Exchange. 1:4-7.

The program which was both large scale and for which the most information is available is the USAID funded workplace-based peer education program carried out in collaboration with the Federation of Uganda Employers (FUE), the Experiment in International Living (EIL), and AIDSCOM.

As of March 1992, FUE had implemented the program in 47 of its member companies and trained a total of 242 trainers and 3886 peer educators. EIL's program reached 53 non-governmental organizations, community groups, and companies, training 88 trainers and 2092 peer educators. There were three basic interventions planned: talking with a peer educator, attending a talk about AIDS in the workplace, and watching a film about AIDS.

At six of the eight evaluation sites, program activities reached more than 70 percent of the workers. Those who were exposed to the interventions exhibited higher levels of knowledge about the virus and were more likely to believe others used condoms, both related to safer behavior in this study. One question raised by the evaluators related to the cost of the program, and whether a lower cost intervention would be more feasible. An issue of general interest that emerges from this very high-quality evaluation, which used a statistical model, is how difficult it is to isolate effects of the interventions.

C. HIV Testing and Counselling

Review/"lessons learned" documents
M'Pele, Pierre, Sophie Lallemant-Le Coeur, and Marc J. Lallemant. 1994. "AIDS Counselling in Africa." In AIDS in Africa. Edited by Max Essex, Souleymane Mboup et al. New York, NY: Raven Press.

Studies of individual programs
Allen, S., A. Serufilira, J. Bogaerts, et. al. 1992. "Confidential HIV testing and condom promotion in Africa: impact on HIV and gonorrhea rates. Journal of the American Medical Association. 268: 3338-43.

Allen, S., J. Tice, P. Van de Perre, et al. 1992. "Effect of serotesting with counselling on condom use and seroconversion among HIV discordant couples in Africa." British Medical Journal. 304:1605-09.

Allwood, C.W., I.R. Friedland, A.S. Karstaedt and J.A. McIntyre. 1992. "AIDS -- the Baragwanath experience. Part IV. Counselling and ethical issues." South African Medical Journal. 82(2):98-101.

Bor, R. and J. Elford. 1992. "Evaluation of an intensive HIV/AIDS counselling course in Zimbabwe." Health and Education Research:

Theory and Practice. 7(3):431-6.

Kamenga, M., R. W. Ryder, M. Jingu, et al. 1991. "Evidence of marked sexual behavior change associated with low HIV-1 seroconversion in 149 married couples with discordant HIV-1 serostatus: experience at an HIV counselling center in Zaire." AIDS. 5:61-67.

Moses, S., F.A. Plummer, E. N. Ngugi, et al. 1991. "Controlling HIV in Africa: effectiveness and cost of an intervention in a high-frequency STD transmitter core group." AIDS. 5: 407-11.

Muller, O., L. Brugahare, B. Schwartlander, et al. 1992. "HIV prevalence, attitudes and behavior in clients of a confidential HIV testing and counselling center in Uganda." AIDS. 6:869-74.

Peltzer, K., S. K. Hira, D. Wadhawan, and J. Kamanga. 1989. "Psychosocial counselling of patients infected with human immunodeficiency virus (HIV) in Lusaka, Zambia." Tropical Doctor. 19:164-8.

Temmerman, M., S. Moses, D. Kiragu, S. Fusallah, I.A. Wamola, P. Piot. 1990. "Impact of single session post-partum counselling of HIV infected women on their subsequent reproductive behaviour." AIDS Care. 2(3):247-52.

A key element of any HIV prevention program is serostatus testing. This has consisted of three elements: the blood test itself, a confirmatory test by another method in the case of a positive result, and counselling, both before and after testing. Testing for the virus should be an integral part of any HIV prevention program. To the extent that voluntary testing takes place, those with HIV can be identified and counselled, reducing the spread of HIV.

HIV counselling has a number of objectives: to learn about the patient's needs, to teach the patient about HIV, to ensure informed consent if testing is required, and to provide post-test counselling for patients and possibly other affected individuals. (M'Pele 1994:66).

The studies cited seemed to bear out the effectiveness of testing and counselling to reduce risky behaviors. The Muller (1992) study carried out in Kampala, Uganda, showed that most of the seronegative clients who returned six months later had adopted low-risk behaviors, and the rate of seroconversion (infection) was very much below the national average. The Kagamenga (1992) study of discordant HIV status couples (one HIV positive, one HIV negative) showed that intensive counselling led to an increase from less than five percent of couples ever using condoms to over 70 percent always using condoms.

Yet, in spite of the efficacy of testing and counselling in reducing HIV infection, there are very important issues related to HIV testing and counselling.

Cost. It is not clear how soon increased testing would place a strain on HIV program resources, but it seems that this would happen very quickly in many countries. The second test especially is expensive (viewed in the context of developing countries). Counselling is by its very nature labor intensive. This would appear to suggest that cost will limit the use of a testing/counselling procedure. In fact there appears to be few voluntary testing centers in Africa (M'Pele 1994:469) .

The second test requires technical expertise, and is currently available in relatively few locations in developing countries. This will also inhibit testing and counselling by restricting the ability to give a definitive diagnosis.

D. Youth

Review/"lessons learned" documents
None found.

Studies of individual programs

Caceres, Carlos F., Ana Maria Rosasco, Jeffery Mandel, and Norman Hearst. 1992. "Diseno y evaluacion de un programa escolar de educacion sexual y prevencion de ETS y SIDA en Lima, Peru." In A Portfolio of AIDS/Behavioral Interventions and Research, edited by Lydia S. Bond. Washington, D.C.: Pan American Health Organization.

Jimerson, Ann B. and Dace Stone, "HIV Prevention in the Schools," 1993. World Against AIDS: Communication for Behavior Change, edited by William A. Smith et al. Washington, D.C.: Academy for Educational Development. (Principally a study of developing an AIDS education program in Malawi schools).

Klepp, Knut-Inge, Sidney Sndeki, Amend M. Seha, Peter Hannan, Babuel A. Lyimo, Maryceline H. Msuya, Mohamaed N. Irema and Aksel Schriener. 1994. "AIDS education for primary school children: an evaluation study." AIDS. 8:1157-62.

Thongkrajai, Earmporn et al. 1994. "AIDS Prevention Among Adolescents: An Intervention Study in Northeast Thailand." Washington D.C. : International Center for Research on Women. PJ-ABR-794.

Studies have indicated that a large number of people are sexually active in adolescence, and some even before. Some young people behave in ways that put them at risk for HIV infection, including having unprotected sex and multiple partners. A significant percentage of adolescents, however, have not yet initiated sexual activity. These young people have the chance of adopting behaviors which can significantly reduce sexual transmission of HIV. A sexually monogamous, HIV-negative couple is at no risk of contracting HIV/AIDS through sexual transmission. Even delaying the age of initiation of sexual activity prevents the sexual transmission of HIV during that period.

Another important reason for including young people in prevention programs is their shear numbers. One WHO study estimates that one third of the world's population is between the ages of 10 and 24. This population includes future leaders, and values adopted during early years may become the values of society.

Areas of concern include the fact that both parents and the larger community are involved in teaching young people the "facts of life," e.g., "putting ideas about sex in their heads." Moreover some have observed that many young people tend toward fatalism and consider themselves "invulnerable," and thus do not adopt safer sex behaviors.

Thongkrajai (1994), a very careful study of a school-based intervention program, showed little apparent difference between the participant group and the control group, both of which did participate in education programs. Their discussion of the difficulties in measuring results, including the difficulties in applying knowledge, attitudes, beliefs and practice survey instruments in the area of sexual behavior is valuable.

E. Commercial Sex Workers and Clients

Review/"lessons learned" documents

Asamoah-Adu, A., S. Weir, M. Pappoe, N. Kanlisi, A. Neequaye, P. Lamptey. February, 1994. "Evaluation of a targeted AIDS prevention intervention to increase condom use among prostitutes in Ghana." AIDS. 8(2):239-46.

de Zalduondo, Barbara, Mauricio Hernandez Avila and Patricia Uribe Zuniga. 1991. "Intervention Research Needs for AIDS Prevention among Commercial Sex Workers and Their Clients." In AIDS and Women's Reproductive Health, edited by Lincoln Chen et al. New York, NY: Plenum Press.

Ferncic, N., P. Alexander, et al. 1992. AIDS Health Promotion Exchange. 1:14-16.

Lamptey, Peter. 1991. "An Overview of AIDS Interventions in High-Risk Groups: Commercial Sex Workers and Their Clients." In AIDS and Women's Reproductive Health, edited by Lincoln Chen et al. New York, NY: Plenum Press.

Mhalu, F., K. Hirji, P. Ijumba, J. Shao, E. Mbena, D. Mwakagile, C. Akim, P. Senge, H. Mponezya, U. Bredberg-Raden. 1991. "A cross-sectional study of a program for HIV infection control among public house workers." Journal of Acquired Immune Deficiency Syndromes. 4(3):290-6.

Peterson, C. and C. Szterenfeld. 1992. "Organizing a project with community-based health agents recruited from prostitutes in Rio de Janeiro." Public Health. 106(3):217-23.

Raman, S. 1992. "Positive reinforcement to promote safer sex

among clients." AIDS Health Promotion Exchange. 1:6-9.

Singh, Yadu Nath, and Anand Narayan Malaviya. 1994. "Experience of HIV prevention interventions among female sex workers in Delhi, India." International Journal of STD and AIDS. 5:56-7.

Studies of individual programs

Fox, L.J., P.E. Bailey, K.L. Clarke-Martinez, M. Coello, F.N. Ordonez, F. Barahona. 1993. "Condom use among high-risk women in Honduras: Evaluation of an AIDS prevention program." AIDS Educ. Prev. 5(1):1-10.

Goicochea, P. 1990. "Reaching boys who sell sex." AIDS Watch. 11:2-3.

Guzman Franco, Gloria and Matilde Saavedra de Tafur. 1992. "Programa de prevencion de enfermedades de transmision sexual y sida en menores de la calle." A Portfolio of AIDS/Behavioral Interventions and Research, edited by Lydia S. Bond. Washington, D.C.: Pan American Health Organization.

Ngugi, E.M., et al. 1989. "Prevention of transmission of human immunodeficiency virus in Africa: Effectiveness of condom promotion and health education among prostitutes." Lancet. 344: 87-90.

Moses, S., F.A. Plummer, E.N. Ngugi, N.J. Nagelkerke, A.O. Anzala, J.O. Ndinya-Achola. 1991. "Controlling HIV in Africa: effectiveness and cost of an intervention in a high-frequency STD transmitter core group." AIDS. 5(4):407-11.

Parker, Richard G., S. Patrick Larvie, and Ranulfo Cardoso Jr. 1992 "Programa pegacao: an outreach program for make commercial sex workers in Rio de Janiero." In A Portfolio of AIDS/Behavioral Interventions and Research, edited by Lydia S. Bond. Washington, D.C.: Pan American Health Organization.

Swaddiwudhipong, W., P. Nguntra, C. Chaovakiratipong, et al. 1990. "Effects of health education and condom promotion on behavioral change among low socioeconomic prostitutes in Mae Sot, Tak, Thailand. " Southeast Asian J. Trop. Med. Public Health. 21:453-7.

Valedespino, Jose Luis, Jose Antonio Izazola, Maria de Lourdes Garcia, et al. 1992. "Evaluacion de una intervencion educativa en mujeres trabajadoras del sexo en Mexico." In A Portfolio of AIDS/Behavioral Interventions and Research, edited by Lydia S. Bond. Washington, D.C.: Pan American Health Organization.

Wilson, David, Babushi Sibanda, Lilian Mboyi, et al. 1990. "A pilot study for an HIV prevention program among commercial sex workers in Bulawayo, Zimbabwe." Soc. Sci. Med. 31(5): 609-18.

Commercial sex workers (CSWs) and their clients are clearly among the highest of high risk groups. CSWs typically have sex frequently and with a variety of people, both factors that

increase risk. For this reason much effort has gone into working with CSWs and, to a lesser degree, with their clients. Almost all of the literature refers to female sex workers.

Difficulties have included the following:

Societies are ambiguous toward CSWs. Moral values frequently oppose commercial sex, while it is tolerated to some degree. At the same time commercial sex is often illegal, though the laws are often not strictly enforced. Targeting commercial sex workers and other high risk groups for HIV prevention efforts can actually contribute to blame being placed on these groups by other members of society.

CSWs typically have a low/marginal socio-economic status, which has led to some deprivation of health services.

As commercial sex is provided in many different locations, it is difficult to reach a high proportion of CSWs in a country or even a city. Moreover, the sites of commercial sex work are often kept secret. Social networks of CSWs of various types and extent do exist, however, and are used to facilitate the prevention program.

Programs usually or often have included the following elements:

Research. Often conducted informally, research has included determination of areas where commercial sex is undertaken, knowledge, attitudes and needs.
Education about HIV/AIDS. This education has included increasing knowledge about how HIV is, and is not, transmitted and ways to reduce risk.

An emphasis on condom use. This has included distribution of condoms and skills training in condom use. This has been the fundamental approach to reducing risk. Condom use increased significantly in all three programs, as shown in Table 2. In Zaire, for example, condom use rose from 0 to 62 percent, an extremely large change for a health promotion program.

Negotiation training. A major problem for commercial sex workers is that the client frequently does not want to use a condom. Training can help CSWs persuade clients to use condoms.

Peer education. Sex workers themselves have been involved in outreach and education. This involves reaching sex workers (and sometimes their clients) where they work. Natural leaders are identified to act as peer educators and to help involve others in the planning and implementation of the programs.

STD control and prevention. As STDs can substantially increase the transmission of HIV, this is an important measure. It usually involves education about STDs and referral to STD clinics or other locations that can treat STDs. In some situations CSWs are supposed to report to STD clinics, where they then become involved in HIV/AIDS prevention programs, such as in the Honduran

program cited above.

F. Women

Review/"lessons learned" documents

Chen, Lincoln, Jaime Sepulveda Amore and Sheldon J. Segal. 1991. "An Overview of AIDS and Women's Health." In AIDS and Women's Reproductive Health, edited by Lincoln Chen et al. New York, NY: Plenum Press.

Studies of individual projects
(See also documents in other topic areas, such as testing and counselling and workplace)

Bhende, A. 1993. "Evolving a model for AIDS prevention education among low-income adolescent girls in urban India." Washington, D.C., International Center for Research on Women [ICRW], Women and AIDS Research Program.

Cash, K. and B. Anasuchatkul. 1993. "Experimental educational interventions for AIDS prevention among northern Thai single migratory female factory workers." Washington, D.C., International Center for Research on Women [ICRW], Women and AIDS Research Program, (Report-in-Brief).

Heyward, W.L., V.L. Batter, M. Malulu, N. Mbuyi, L. Mbu, M.E. St Louis, M. Kamenga, R.W. Ryder. 1993. "Impact of HIV counselling and testing among child-bearing women in Kinshasa, Zaire." AIDS. 7(12):1633-37.

Women face two specific problems in preventing HIV infection, not exclusive to the gender, but certainly emphasized by the circumstances: 1)controlling their own sexual behavior is not enough as they can be infected by their partners, and 2) they must negotiate with their sexual partner behavior changes such as condom use or mutual fidelity, and often do so from a position of negotiating weakness. For example, single women who talk about AIDS or condoms with a boyfriend or peers risk being perceived as promiscuous or knowing too much about sex. Condoms are frequently believed to be men's business, outside 'good' or 'proper' women's knowledge and control. Economic dependence on men can also be an inhibiting factor for women.

One approach has been to train women in negotiating skills and raise behavior issues in group discussions, so that women realize that these are not problems that pertain to them alone. This training has been carried out in specific instances. For example, the Cash study (1993) reported that of three AIDS education interventions for Thai adolescent female workers--peer group, health promoter, and materials-only interventions--peer group education appeared to be the most effective because continuing face-to-face communication between peer group members and leaders takes place during working hours, peer leaders better understood the circumstances facing the women, and peer leaders and members were better able to apply group process methods.

Negotiation training can help, but results may be limited. Another study in Uganda indicated that after negotiation training, 90 percent of the women were still reluctant to introduce the topic of condoms to their sexual partners for two reasons: fear of being mistaken as unfaithful and men complaining that they do not enjoy sex with condoms.

Other approaches include:

Making HIV-testing widely available so couples can determine their serostatus and discuss the risks of HIV infection that confront them.

Reducing infidelity. To the extent that spouses are the problem, approaches that reduce extra-marital relations will be beneficial.

Reducing STD transmission. As many STDs increase the transmission rate of HIV, identification and cure of STDs will be valuable.

Provision of condoms, as the only modern method (in spite of breakage and other problems) that can very significantly inhibit transmission.

G. Homosexuals

Review/"lessons learned" documents

None found, other than previously cited studies on male commercial sex workers.

Studies of individual projects
None found.

Although there are many studies of homosexuals and HIV in developed countries, this is not true for developing counties. We were not able to locate published prevention program evaluation literature on homosexual sexual behavior unrelated to commercial sex work, though unpublished literature does exist.

IV. Integration with Public Health/Family Planning Activities

What is essentially a second phase of AIDS prevention activities is occurring with the increasing integration of these activities with other public health strategies, including family planning programs, maternal/child health (MCH) programs, programs for the control and prevention of STDs, and condom promotion activities. Though such integration seems a logical step, it appears to be only in the early stages of evolution and development will not take place without effort. The special circumstances of AIDS, especially the idea of "core transmitters" and the importance of behavior change, in addition to the difficulties inherent in adapting ongoing programs to incorporate AIDS prevention activities are obstacles. It is still too soon to tell what level of HIV activities (and STD and other maternal health

activities) will be adopted and by what service providers.

A. Family Planning, Maternal/Child Health Programs

Review/"lessons learned" documents

Blair, William, Peter Clancy, et al. 1993. "HIV/AIDS prevention and control and population/family planning: the potential for integration of programs and activities in sub-Saharan Africa." Arlington, VA: Dual Inc.

Studies of individual projects
Feringa, B. and A. Santamaria. 1992. "Latin America pretest of women's health and AIDS training modules." Unpublished. 5 pp.

Blair (1993) gives a very good description of the issues involved, not only in the integration of family planning with HIV prevention activities, but with other issues as well such as integration of STD control with family planning. Advantages of integration might include the better use of scarce resources, more focus on men in current family planning programs, and a greater number of useful services. There are various difficulties, however. For example, condoms have been considered relatively undesirable as a birth control method, because they break in a small percentage of cases, are expensive, are often unavailable, and usage is often not controlled by the female sex partner. Thus condoms have not been the contraceptive of choice in family planning programs. There is certainly a cognitive dissonance in not recommending condoms for contraceptive use because of unreliability and recommending them for HIV prevention. Though the probability of infection appears to be smaller than the probability of pregnancy, HIV is a grave threat, and pregnancy usually is not.

A second difficulty is the cost of provision of extra STD- and HIV-related services in family planning clinics. Adding activities to a already firm budget implies that current service delivery will be compromised. Where the additional resources will come from for an expansion of services is not clear.

Another related issue is the provision of quality services. The proper diagnosis and treatment of STDs can be complex and require substantial training. One possible approach given financial limitations may be to focus a substantial portion of the treatment and diagnosis in STD clinics.

Finally, the stigma attached to HIV may serve to discourage attendance at family planning clinics.

Integrating MCH programs with HIV prevention programs involve issues similar to those connected with family planning programs. MCH programs have been predominately oriented towards children, and appear to face greater difficulties in providing HIV prevention services to women. What can family planning and MCH programs in fact do for women with respect to HIV? At a clinic level, there seem to be four answers, all important:

1.Testing for HIV and the associated counselling
2.Testing and treatment (at least as a referral point) for STDs generally
3.Provision of condoms
4.Counselling/assistance in partner negotiation, perinatal transmission of AIDS and dealing with AIDS in the family and community

However, adoption of an education/social marketing approach to avoiding infection may be more effective than a clinic-based approach.

B. STD Control

Review/"lessons learned" documents
Fransen, L., C. J. Van Dam and P. Piot. 1991. "Health policies for controlling AIDS and STDs in developing countries. Health Policy and Planning. 6(2):148-56.

Lande, Robert. 1993. "Controlling Sexually Transmitted Diseases." Population Reports. Series L, No. 9.

Meheus, A., K.F. Schultz and W. Cates Jr. 1990. "Development of prevention and control programs for sexually transmitted diseases in developing countries." In Sexually Transmitted Diseases, 2nd ed. ed. K.K. Holmes et al., pp. 1041-46. New York, NY: McGraw-Hill.

Piot, Peter and Marie Laga. 1991. In Research issues in human behavior and sexually transmitted diseases in the AIDS era, ed. J. et al., 281-93. Washington, D.C.: American Society for Microbiology.

Studies of individual projects
Kamanga, J., 1991. "Zambia's STD control programme. A model for Africa?" Africa Health. 13(11):10-11.

Ronald, A., F. Plummer, et al. 1991. "The Nairobi STD Program: An International Partnership." Infectious Disease Clinics of North America. 5(2): 337-352.
There are three reasons why the control of sexually transmitted diseases (STDs) is important in the context of HIV prevention. HIV is an STD, so any campaign aimed at reducing the incidence of STD infection will affect HIV infection rates as well; certain STDs facilitate the transmission of HIV, most notably genital ulcers; and those who carry STDs are frequently those with multiple sexual partners, who are at greatest risk of becoming infected with HIV and infecting others. Consequently, STD clinics are one important way to reach persons at high risk for HIV infection.

Table III. Estimated Attributable Risk of STD on HIV Infection (Selected Studies)

Source: Seth Barkley, "The Public Health Significance of

Sexually Transmitted Diseases for HIV Infection in Africa" in Aids and Women's Reproductive Health, Eds. L.C. Chen et al. (New York:Plenum Press, 199l), p. 81.

The relative risk for a given disease (in this case STDs other than HIV) is defined as the incidence of the disease in the exposed group divided by the incidence of the disease in the unexposed group. When the relative risk is weighted by the percentage of people that have the disease, this is the attributable risk. With a relative risk of two, and a ten percent prevalence, the attributable risk is approximately ten percent--that is, the risk factor is responsible for ten percent of the cases. Table III gives estimates of the relative risk ratio and attributable risk percentage for specific situations in Africa.

Unlike family planning and MCH programs, which have received large amounts of donor support, STD programs have received almost none. Donor funding is a major source of support, and can be an even greater source of program direction. Thus STD programs have relied on the program level and direction of developing country public health departments, which have often been relatively weak in the competition for government funds.

STD control has been focused on medical analysis and prescription, not unreasonable for curable STDs, but an approach that needs to be broadened for HIV prevention. Problems in expanding the provision of STD services are similar to those for family planning and MCH clinics. Service accessibility, cost, quality, and training are all important considerations.

C. Condom Promotion and Supply

Review/"lessons learned" documents
Baird, Victoria. 1993. "Integration of HIV/Family Planning messages at the Consumer Level." Washington, D.C.: SOMARC/The Futures Group.

Liskin, Laurie, Chris Wharton and Richard Blackburn. Sept., 1990. "Condoms--Now More Than Ever." Population Reports. Ed. Ward Rinehart. Baltimore, MD: The Johns Hopkins University. XVIII(3): Series H, No. 8, pp. 1-2.

Studies of individual projects
A principal issue in condom promotion for HIV protection is the extent to which HIV and family planning messages can be integrated. The Somarc study describes the effort to design a multi-country social marketing for condoms campaign in Africa. It proved easy and even useful to integrate the messages.

There are a number of issues related to condom supply, most of which apply to HIV promotion but are not specific to it. Condom availability is a major issue, with many subordinate issues, including importation, stocking policies and procedures, shelf life (which is limited) and distribution methods. Pricing of condoms is a related matter. Full cost pricing will limit demand

to those who can afford to pay full price. Free or subsidized condoms are more accessible to poor people, but the cost/subsidy must be paid, often by a financially hard-pressed health agency, which serves to limit the supply. The onset of HIV has and will increase demand for condoms and thus may well tend to exacerbate supply problems, at least in the short run.

V. National and Donor Programs

What is happening at the country level is key to AIDS prevention. It is at this level that the battle against HIV is fought, and won or lost. This is where public perception of the problem is forged and funds are allocated to fight it

Donor/International programs, such as those funded by USAID and the World Health Organization (WHO) have been very important because of both the funding and technical support they have provided. International organizations which have substantial HIV prevention programs include the WHO's General Program on AIDS (WHO/GAP), the World Bank, the United Nations Development Program (UNDO) and the United Nations Children's Fund. It appears that only two of the donor programs, USAID and WHO, have made much program material available.

A. National Programs

Review/"lessons learned" documents
Chi. 8, "National AIDS Programs," 1992. AIDS in the World: A Global Report. Edited by Mann, Jonathan, Daniel JAM. Tarantula, and Thomas W. Nether. Cambridge, MA: Harvard University Press.

Studies of individual country programs
Hanenberg, Robert S. and Wiwat Rojanapithayakorn, et al. 1994. "Impact of Thailand's HIV-Control Program, as indicated by the decline of sexually transmitted diseases." Lancet, 344:243-5.

Kirumira, E.K. 1992. "Uganda: Why a re-think is needed of AIDS control policy." Aids Analysis Africa. 2(5):8-9.

Ramasoota, Teera. "Four years follow-up of the impact of AIDS and intensive health education on the control of sexually transmitted diseases in Thailand." Southeast Asian J Trop Med Public Health. 22(4):489-98.

Mann (1992, Ch. 8) provides a good overview of lessons learned and development of national HIV prevention programs. Programs:

were successful in raising public awareness on AIDS issues;
raised human rights issues and managed in some cases to prevent human rights violations;
facilitated information and to some extent resources exchange at the international level;
included more groups in AIDS prevention and the decision making process.

Nonetheless there have been difficulties, according to Mann.

These include:
Financing of AIDS prevention programs. These new programs have had to contend for national government funding in an era of precarious finances for a large number of national governments. Donor financing has made a contribution.

Management. As in other programs in developing countries, program management difficulties also face AIDS programs. Mann's survey indicated that two-thirds of AIDS program managers had been replaced in the last two years.

Developing an inclusive response. There have been difficulties in moving from a governmental and medical emphasis to one that includes more sectors and actors, such as organizations providing service to educators and people who are HIV-positive.

B. Donor Programs

USAID

Review/"lessons learned" documents

Family Health International. 1992. "Quarterly country update--1st quarter FY 93: AIDSCAP [AIDS control and prevention project]." Research Triangle Park, NC: Family Health International. PD-ABH-530.

_____. 1992. "AIDSTECH Final Report" (Vols. 1,2). Durham, NC: Family Health International.

Jewell, Norine C., Robert Simmons, et al. 1989. "Final report: first interim evaluation--public health communications (AIDSCOM) and technical support (AIDSTECH) components of A.I.D. AIDS technical support project conducted September 5 to October 18, 1989." Bethesda, MD: Devres. PD-ABI-192.

Weaver Richardson, Lee, Diane Rawl, et al. 1992. "Foreign assistance: Combating HIV/AIDS in developing countries." Washington, D.C.: U.S. General Accounting Office. PC-AAA-236.

U.S. Agency for International Development. 1993. "HIV/AIDS: The Evolution of the Pandemic, the Evolution of the Response." Washington, D.C.: USAID.

_____. 1992 "Confronting AIDS in the developing world: A report to Congress on the USAID program for prevention and control." Washington, D.C.: USAID.

_____. 1991. "HIV infection and AIDS: A report to Congress on the USAID program for prevention and control." Washington, D.C.: USAID.

_____. 1990. "HIV infection and AIDS: A report to Congress on the USAID program for prevention and control." Washington, D.C.: USAID. PN-ABF-704.

_____. 1989. "HIV infection and AIDS: A report to Congress on the USAID program for prevention and control." Washington,

D.C.: USAID. PN-ABC-995

Individual project documents
Lip, Cesar, Jorge Sanchez, et al. 1994. "HIV-AIDS education and prevention." Lima, Peru: USAID. XD-ABH-489A, attached to PD-ABH-628.

Mercer, Mary Anne, Cynthia E. Mariel, and Sally J. Scott. 1993. "Lessons and legacies: the final report of a grants program for HIV/AIDS prevention in Africa." Baltimore, MD: Johns Hopkins University. School of Hygiene and Public Health. PN-ABP-166.

Mudariki, Taka, Eva Procek, et al. 1992. "Technical assessment of the Botswana HIV/AIDS prevention project." Gaborone, Botswana: Social Welfare and Development Services. PD-ABG-459.

Roseberry, Wendy, Dennis Foote, et al. 1991. "AIDS communications and technical services (ACTS) project: evaluation of phase one and plan of activities for phase two." Chevy Chase, MD: University Research. XD-ABD-659A.

The principal current USAID programs are:

AIDSCAP (AIDS Control and Prevention). Established in 1992 as the successor to AIDSCOM and AIDSTECH (see below), this multi-disciplinary technical assistance project is the largest part of USAID; HIV/AIDS prevention program.

Mission-funded projects. USAID missions have directly supported HIV/AIDS prevention projects in countries such as Peru, Ghana, Uganda, the Philippines and Indonesia (This can be done through "buy-ins" to AIDSCAP or independently funded through the Mission).

WHO's General Program on AIDS (WHO/GPA) receives annual funding from USAID ($25 million in 1992). The GPA has provided technical assistance in all areas of AIDS prevention activities, such as ensuring safe blood supplies, monitoring the spread of HIV, and evaluating program effectiveness.

Principal past projects have been:

AIDSCOM. This was a $24 million public health communications program which ran from 1987 to 1992, managed by the Academy for Educational Development, helped organizations apply communication and behavioral sciences to HIV/AIDS prevention and assisted in developing institutional capacity for health communication efforts;

AIDSTECH. This was a multi-disciplinary technical assistance project managed by Family Health International, which ran from 1987 to 1992 and included technical assistance in such areas as peer education, condom social marketing, and STD prevention initiatives. AIDSCOM and AIDSTECH were complementary programs and principal components of the AIDS Technical Support Project.

HIV/AIDS Prevention in Africa (HAPA). This project, which ran from 1988 to 1992, helped to support a number of initiatives, such as a condom social marketing project in Zaire, an STD control project in Zambia, and funding for PVOs to work in HIV/AIDS prevention.

Specific lessons learned from USAID's programs are covered in earlier sections of this paper. This section will identify evaluations of USAID's HIV/AIDS prevention programs.

A description of USAID's program, both overall and by country, is given in USAID's annual reports to Congress. USAID is focusing its efforts on preventing the sexual transmission of HIV, and in a limited number of countries, partly for financial reasons.

Midterm program evaluations for approximately 12 AIDSCAP country programs are currently being undertaken, together with a midterm evaluation of the AIDSCAP program. AIDSCAP does provide semi-annual reports; however the last one available through USAID's Development Information System is for the period ending September 1992 (Family Health International, 1992).

There does not appear to be a final evaluation for either AIDSCOM or AIDSTECH. There was an interim evaluation for both (Jewell, 1989). For AIDSTECH there is a final report (AIDSTECH, 1992). The AIDSCOM publications cited above in the mass media section provide lessons learned and some degree of program evaluation. There was a final report done for the NGO component of HAPA (Mercer 1993). The only individual country program for which a final evaluation is available seems to be that of Peru (USAID 1994). There is a midterm evaluation available for the Caribbean project.

The GAO report appears to be the only outside evaluation of USAID's HIV/AIDS prevention program, focused primarily on management of the program.

World Health Organization/General Program on AIDS (WHO/GPA)

Review/"lessons learned" documents
World Health Organization. 1992. "Global Program on AIDS: 1991 Progress Report." Geneva: WHO/GPA.

The basic WHO/GPA document, indicated above, is a biennial progress report. The 1993 report is now in draft. Also important are the biennial budget, and the annual report of the executive director. There have been program reviews of individual GPA areas, but these are not generally available. WHO/GPA has also participated in program evaluations of country programs, nor are these generally available.

World Bank, UNDP, UNICEF

Review/"lessons learned" documents
Lamboray, Jean-Louis and A. Edward Elmendorf. 1992. "Combatting AIDS and other sexually transmitted diseases in Africa: A review

of the World Bank's agenda for action." Washington, D.C.: World Bank.

For understanding the World Bank's efforts in AIDS and STDs, perhaps the best single source is that cited above. Funding for HIV prevention efforts is generally part of a larger health sector loan. Evaluations of project performance are not publicly available.

Both UNICEF and the United Nations Development Program have also funded significant AIDS prevention programs, but do not make evaluations publicly available.

VI. Conclusions From a Development Information Perspective

HIV prevention programs involve specific issues, and the preceding sections have attempted to identify evaluations of these issues. It is clear that much is known. National communications programs can increase public knowledge of HIV. Testing and counselling do lead people to modify their sexual behaviors, as do peer education programs. In this final section we would like to offer some observations on prevention program evaluation information.

1. Are there enough accessible program evaluations? This is a difficult question to answer, as the question has a subjective element and the answer covers a wide range of knowledge.

The two databases that provide the most extensive coverage of developing country HIV prevention programs are AIDSLINE and POPLINE. Both are part of the National Library of Medicine's medical database systems, and both are outstanding databases in terms of quantity of information, a cataloging structure for information which makes possible the retrieval of desired information (typically citations of journal articles) from an enormous body of principal articles, and wide and reasonably priced access. Anyone who has worked with these databases for any length of time is very appreciative of the assistance that they provide.

Table IV provides information drawn from these databases. For both, the number of citations of HIV prevention program evaluations for the years 1990 to 1994, (when program evaluations should start appearing) numbered about 50. The number of published program evaluations was even smaller. For AIDSLINE, for example, only 19 were published. Fifty program evaluations translates to about ten program evaluations per year and approximately .5 per country. Programs are how we are trying to prevent the spread of the AIDS epidemic; this evidence suggests that we need to put more effort into evaluating these programs.

Table IV. Developing country HIV prevention program evaluations and total number of developing country HIV citations (AIDSLINE and POPLINE databases 1990-94)

Source: POPLINE and AIDSLINE. The previous approach focuses on

individual program evaluations. Another approach that can supply some insight into the lack of program evaluations is tallying the number of published HIV prevention program evaluations cited in "lessons learned" papers that focus specifically on AIDS interventions (e.g., those included in sections II and III). The results of this approach appear in Table V. Again, it appears that the number of citations of published program evaluations is small. While this may be by design, it may also reflect a relatively small number of published program evaluations.

Table V. Citations to Published Evaluations of HIV Prevention Programs in Review Articles

Source: Cited studies.

2. National Program Evaluations. One clear gap emerging from this literature review is the absence of national program evaluations. These evaluations have been done in many cases, but not made public. This state of affairs needs to be rethought. HIV/AIDS is a disease with global implications; we need a much more organized and detailed view of progress in the battle against its spread. This should be a priority both for country governments and international organizations concerned with AIDS prevention. There is a good basis for this in the country program evaluations in which WHO participates.

A sense of shared accomplishments and problems is valuable; countries would benefit from knowing how they are progressing in relation to others. Moreover, there is international support for these programs. In the United States, for example, citizens contribute through their taxes to all the international agencies with significant international AIDS prevention programs. What is lacking, for those interested, is a good sense of what is happening, both in terms of progress and problems. Problems must not be ignored or simply mentioned, a tendency to which government publications are prone. Progress on key issues, such as human rights, actually requires focusing on areas of concern. One possibility would be simply making national program evaluations available to the public as they are completed. An additional solution would be to undertake a summary publication. An annual or biannual document could provide a basis for understanding and making progress against this global disease. The publication AIDS in the World, could serve as a useful model if produced on a regular basis and with greater access to information now held by other institutions.

3. Donors and international organizations will have to rethink the confidentiality of their documents, and essentially make evaluations of their programs more accessible to the public. There are hundreds of millions of dollars being spent on AIDS prevention programs by international agencies, yet there is a minimal public record of the performance of these programs. If sexual issues can be raised in public discussion, so can AIDS program performance, and for the same reason. Though not perfect, USAID has been the leader in an open evaluation process, and the rest should follow suit.

4. In other areas where HIV prevention program evaluation might be increased, the answer is less clear. Blaming the victim--the harried local staff of an HIV prevention project-- is probably not the answer. Some steps appear relatively easy to take:

Producing a journal that directly addresses key questions in HIV prevention programs such as the AIDS Health Promotion Exchange, will certainly work to increase program information.

One possibility is finding ways to publish information outside of the professional--often medical--journals where an advance in knowledge is hoped for and an academic knowledge of the issues is required, and where medical rather than programmatic information is more highly valued. Adjusting the publication format to the type and style of presentation of information that prevention programs need to undertake might increase the amount of information supplied. Whether or not an international (or regional) information exchange can be developed is unclear, though it would certainly be within the capabilities of the regional UN health organizations or UNDP.

There are studies that have been done--those reported in AIDSLINE as being presented at the International Conferences for example--which do not appear to be captured in complete form. There appears to be a significant amount of this "gray literature" some of which deals with evaluation questions. With electronic "publishing" and document distribution an increasingly worldwide phenomenon such information can be distributed world wide at low cost.

This paper has attempted to do two things. The first is to provide a guide to literature that evaluates programs to prevent the sexual transmission of HIV/AIDS. This was done to be useful to all those who are interested in the success of these prevention programs, but who may not have the time or resources to draw these evaluations together. The second is to provide a warning that enough may not being done to evaluate these programs, upon which our hopes rest for preventing the sexual transmission of HIV/AIDS.